Remarks

Claims 1-29 and 34-36 and 40-42 have been canceled without prejudice. Claims 30-33 and 37-39 are pending. Applicants respectfully acknowledge the allowability of claim 37 and claims 31-33 if written in independent format. Applicants have amended claims 30 and 39 as described below. New claims 43-47 have been added. New claims 43 and 44 are identical to claims 38 and 39 except that they depend from allowed claim 37. New claim 45 is the identical to claim 30 except that the the truncation is recited as "152 or 145 carboxy terminal amino acid residues." Support for new claim 45 can be found at least on page 9, lines 15-19; page 13, lines 13-24; page 40, lines 28-32; and Example 9, pages 38-54. Support for this amendment can also be found in claims 1 and 3 as originally filed. Claims 46 and 47 depend from claim 44 and merely recite specific T-cell mediated diseases that are disclosed in the application. Support for claim 46 can be found at least on page 14, lines 6-14; page 16, line 20 through page 17, line 25. Support for claim 47 can be found at least on page 12, lines 29-37; page 13, lines 4-11; and page 17, lines 27-37.

35 U.S.C. § 112, first paragraph

Claims 30-33, 38, and 39 are rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to provide written description to reasonably convey to one of skill in the art to make or use the invention.

In particular, the Examiner has rejected claim 30 for the recitation "about 150-145 carboxy terminal amino acid residues are truncated from the native diphtheria toxin moiety." The Examiner states in the January 16, 2004, Office Action that mutants DT390, DT383, and DT370 are disclosed, but that "no support has been found for the range of truncation mutants that

are now claimed." Applicants respectfully point out that DT390, DT383, and DT370 are names for mutants with truncations and that the numbers in the name (ie., 390, 383, and 370) represent the number of residues remaining after the truncation counting from the amino terminal. The claims, however, recite the number of carboxy terminal residues removed. For example, a truncation of 145 carboxy terminal residues would be 535 residues (the full length toxin) minus 145 residues which would leave 390 residues. Such a mutant is described throughout the specification as DT390. Similarly, the discussed mutants DT383 and DT370 are truncation mutants wherein 152 and 165 carboxy terminal residues are truncated (535-152=383 and 535-165=370) respectively. Applicants have claimed mutants wherein about 152-145 carboxy terminal amino acid residues are truncated in claim 30 and claimed wherein about 152 or 145 carboxy terminal amino acid residues are truncated in claim 45. Clearly this range of truncations and these specific truncations are supported by the disclosed mutants. Additional support for this range can be found at least on page 9, lines 15-19; page 13, lines 13-24, and figures 17 and 18 wherein DT390, DT383, and DT370 are described. Support may also be found on page 39, lines 11-14 and page 48, lines 32-35 which describe the residues to which anti-DT antibodies in human serum are directed. Additionally support may be found on page 48, lines 10-1 which describes MSPΔ5 (a 150 residue truncation mutant) and on page 49, lines 3-6 which describes DT390 being a truncation mutant having only the first 390 of 525 residues (ie., a 145 residue truncation). It is clear that since a truncation of 145 and a truncation of 152 are effective, that truncations between these points would also be effective, because the intervening amino acids are shown not to be required. Applicants believe this rejection to be overcome and respectfully request its withdrawal.

Regarding claim 39, the Examiner has rejected the claim for allegedly lacking written description as to "T-cell mediated autoimmune disease." However, the Examiner does state that "page 53 shows support only for a more generic method of treating all T cell mediated disease." Applicants respectfully point out that applicants need not provide literal written description for the claims in order to satisfy the written description requirement. Applicants assert that it would be clear to those of skill in the art that the specification is directed to T-cell mediated diseases as the immunotoxins themselves are anti-CD3 immunotoxins must be used to treat T-cell mediated diseases. They could not be used to treat B-cell mediated diseases since B-cells do not have CD3. Additionally, those of skill in the art would recognize that treatment of an autoimmune disease with an anti-CD3 immunotoxin would only be appropriate for T-cell mediated autoimmune diseases. Moreover, applicants have previously provided enabling data with the respect to treating T-cell mediated autoimmune disease. Although the applicants believe support for claim 39 does exist in the specification as cited, to facilitate prosecution, claim 39 has been amended to recite "a method for treating a subject with a T-cell mediated disease." As noted by the Examiner, support for this amendment can be found at least on page 53, lines 19-23 of the specification, and no new matter is believed to be added. Similarly, claim 44 is enabled and described for the same reasons as amended claim 39, but is further limited to the immunotoxin of claim 37. Also, because the Examiner has considered this scope and language and has stated that it is supported, no new issues are presented. Thus this amendment should be entered with this response. Applicants, therefore, respectfully request reconsideration and withdrawn of the rejection.

Applicants note that written description also exists for new claims 46 and 47. In general, the application as a whole is directed to treating T-cell mediated diseases, and one of skill in the

art could readily envision this as what is disclosed. The nature of the invention is such that any T-cell mediated disease is envisioned by the skilled person as possessed by the invention. In particular support for new claim 46 can be found in claims 37 and 39 and at least on page 14, lines 6-14; page 16, line 17 through page 17, line 25 which describe graft versus host disease (GvHD) and in particular page 16, lines 17-25 which clearly indicates GvHD is an example of a T-cell mediated disease. Support for claim 47 can be at least on page 12, lines 29-37; page 13, lines 4-11; and page 17, lines 27-37. As noted above for claim 39, those of skill in the art will recognize that the present specification is drawn to T-cell mediated diseases and therefore, treatment of GvHD or an autoimmune immune disease would necessarily only refer to T-cell mediated disease.

Pursuant to the above amendments and remarks, reconsideration and allowance of the pending application are believed to be warranted. The Examiner is invited and encouraged to directly contact the undersigned if such contact may enhance the efficient prosecution of this application to issue.

A Credit Card Payment Form PTO-2038 authorizing payment in the amount of $750.00 ($420.00 the fee for a two (2) month extension of time and $330.00 the fee for a notice of appeal), a Request for Extension of Time, and Notice of Appeal are enclosed. This amount is

believed to be correct; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

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I hereby certify that this correspondence, including any items as attached or included, is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MAIL STOP RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Gwendolyn D. Spratt — Date: 9-16-04